**Submission to the “Call for Inputs Healthy and Sustainable Food: Reducing the Environmental Impacts of the Global Food System on Human Rights**”

The following inputs to questions (1) and (3) of the “Call for Inputs Healthy and Sustainable Food: Reducing the Environmental Impacts of the Global Food System on Human Rights”, based on a literature review of 110 scientific articles titled “Women, sustainable ecosystems management, and adaptation to climate change in the Andean region” (Catacora-Vargas G.; Llanque-Zonta A.; Jacobi J., in progress).

1. **Please provide examples of ways in which the environmental impacts of the global food system are having adverse impacts on human rights. Adversely affected rights could include, among others, the rights to life, health, water and sanitation, food, culture, livelihoods, non-discrimination, a safe, clean, healthy and sustainable environment, and Indigenous peoples’ rights**.

One of the major environmental impacts of global food systems with adverse effects on human rights, particularly on rural people and women, relates to pollution from pesticide application in agroindustrial production systems. This affects the right to health and to a safe, clean, healthy and sustainable environment, through direct exposure during application, pesticide drift to the environment, and dietary exposure from pesticide residues in food. For instance, Arancibia et al. (2020) report that in Argentina “*taking into account the 200,000 km2 of agricultural expansion, the amount of pesticides applied per hectare rose by factor 6.5 in less than 20 years”* (p.9) *“Currently, there are approximately 340 pesticide active ingredients (excluding biopesticides and inorganic compounds) that have market approval in Argentina. More than one third of them, that is 120, are not approved in the EU”* (p. 6). Moreover, Jørs et al. (2013) mention that with the application of highly hazardous pesticides in Bolivia, several ecosystem functions are affected, and so is human health. Intoxication or long-term diseases affect households. Women are much more affected than men, and do not usually seek medical support.

Agroindustrial production systems also relate to adverse impacts in the economic and social rights of women, especially if they are migrants. Linardelli (2018), from a study in Argentina, reports that women working in conventional production of grapes, tobacco, citrus, vegetables suffer violence and sexual harassment; miscarriages; recurrent injuries or illnesses associated with work on farms and in factories; multiple symptomatology, especially dermatological and respiratory, due to the use of agrochemicals and pesticides, as well as postural pain due to the intense physical demands of the work. The author also reports the recurrence of occupational accidents and the harmful impact of extreme temperatures, as well as social, sex-based and racial segregation, and assignment to migrant women to the most precarious and lowest paid jobs.

1. **To protect a wide range of human rights, what are the specific obligations of States and responsibilities of businesses in terms of preventing, reducing, or eliminating environmental impacts caused by the unsustainable production or consumption of food? How can we shift to food systems that restore and regenerate nature rather than degrading ecosystems, while providing healthy diets for a global population that will exceed nine billion by 2050?**

Food systems can shift towards sustainability by implementing the ecological and social principles of agroecology into the design and management of food production and consumption. Agroecology has shown its capacity to restore and regenerate ecosystems, provide healthy food and strengthening food security and sovereignty (Altieri et al., 2011). Catacora-Vargas (2017) highlights the improvement of food self-consumption among producer families.

The restoring, production and local strengthening capacity of agroecology opens up opportunities for women, especially in the rural areas (i.e. Llanque Zonta et al., 2018) to realize diverse rights, such as a safe, clean, healthy and sustainable environment; food; health; and economic, social and cultural rights. Furthermore, Catacora-Vargas et al. (in progress) indicate that local food systems managed by women are more likely to be sustainable when they experience less pressure from agroindustrial food systems; the right to land and territory are key to guaranteeing social, economic and cultural rights sincethe territory is the socio-geographical space where women can reproduce their livelihoods; and fostering sustainable food production requires securing rural women’s access to their own seeds, water and land.

Inseparably linked to agroecological approaches is the acknowledgement of traditional knowledge to sustainable ecosystem management, on the adaptation to climate change, and on food sovereignty. Acknowledging traditional knowledge therefore further strengthens the respect, protection and fulfillment of human rights. Avellaneda-Torres et al. (2014) indicate that traditional peasant activities are an essential part of the responses to today’s environmental problems. These activities include knowledge on vegetation regeneration, and the management and use of diverse agricultural systems. For instance, Cid Aguayo & Latta (2015; p.1) state that “*By sharing traditional and agroecological knowledge, cultivating alternate circuits of exchange, and building urban–rural partnerships, these movements seek to reshape the horizons of possibility both for peasant communities and for the broader agri-food system”.*

**Cited literature**

Altieri, M. A., Funes-Monzote, F. R., & Petersen, P. (2011). Agroecologically efficient agricultural systems for smallholder farmers: Contributions to food sovereignty. *Agronomy for Sustainable Development*, *32*(1), 1–13. https://doi.org/10.1007/s13593-011-0065-6

Arancibia, F., Motta, R. C., & Clausing, P. (2020). The neglected burden of agricultural intensification: a contribution to the debate on land-use change. *Journal of Land Use Science*. https://doi.org/10.1080/1747423X.2019.1659431

Avellaneda-Torres, L. M., Torres, E., & León-Sicard, T. E. (2014). Agricultura y vida en el páramo: Una mirada desde la vereda El Bosque (Parque Nacional Natural De Los Nevados). *Cuadernos de Desarrollo Rural*, *11*(73), 105–128. https://doi.org/10.11144/Javeriana.CDR11-73.avpm

Catacora-Vargas, G. (2017). Agrobiodiversidad, un camino hacia la soberanía alimentaria. Análisis desde la productividad y el autoconsumo. *VI Congreso Latino-Americano de Agroecología / X Congreso Brasileño de Agroecología*, *13(1)*.

Catacora-Vargas G.; Llanque-Zonta A.; Jacobi J. (in progress). “Women, sustainable ecosystems management, and adaptation to climate change in the Andean region”. Lima: MRI / CONDESAN.

Cid Aguayo, B., & Latta, A. (2015). Agro-Ecology and Food Sovereignty Movements in Chile: Sociospatial Practices for Alternative Peasant Futures. *Annals of the Association of American Geographers*, *105*. https://doi.org/10.1080/00045608.2014.985626

Jørs, E., Hay-Younes, J., Condarco, M. A., Condarco, G., Cervantes, R., Huici, O., & Bælum, J. (2013). Is Gender a Risk Factor for Pesticide Intoxications Among Farmers in Bolivia? A Cross-Sectional Study. *Journal of Agromedicine*, *18*(2), 132–139. https://doi.org/10.1080/1059924X.2013.767102

Linardelli, M. F. (2018). Among the farm, the factory, and home: Productive and reproductive work of female migrant farmworkers in Mendoza (Argentina) and its impact in the healthdisease process. *Salud Colectiva*, *14*(4), 757–777. https://doi.org/10.18294/sc.2018.1395

Llanque Zonta, A., Dorrego, A., Constanzo, G., Elías, B., & Catacora-Vargas, G. (2018). Mujeres, trabajo de cuidado y agroecología: hacia la sustentabilidad de la vida a partir de experiencias en diferentes eco-regiones de Bolivia. In *Agroecología en Femenino. Reflexines a partir de nuestras experiencias* (pp. 123–139). SOCLA-CLACSO.